

Swimming Pools, Wading Pools and Similar Installations

Swimming and wading pools and similar installations can be installed both indoors and outdoors, permanent or storable and may or may not be supplied by electrical circuits.

Failure to install these units correctly can result in death, serious bodily injury and/or property damage.

Unique construction codes and ordinances have been created because of this earth-water-electricity-human body environment dangers. Some of the electrical special requirements are outlined below:

- All metal part(s) in proximity of pool are required to be bonded.
- Underground conduit and wires have restriction on locations, depth and types of conduit and wire.
- Overhead wires have restrictions on locations and clearance.
- Equipment cord(s) have restrictions on lengths and types of receptacle and plug.
- Depending on location, twist-lock plugs and receptacles may be required.
- Grounding between service panel board and pool equipment sub-panel is required.
- Lighting fixture(s) have restrictions on locations and may require ground fault circuit interrupter (GFCI) protection.
- Landscape lighting has restrictions on locations and may require ground fault circuit interrupter (GFCI) protection.
- Underwater wet-niche lighting has requirements on locations, bonding, listing/labeling, potting of connections and segregation of conductors.
- Underwater wet-niche lighting junction boxes have restrictions on locations, bonding, listing/labeling, and splicing.
- Receptacle(s) have restrictions on locations, ground fault circuit interrupter (GFCI) protection and in some locations, twist lock receptacle and plugs.
- Equipment has restrictions on locations, and ground fault circuit interrupter (GFCI) protection.
- Disconnects switch(s) have restrictions on locations, type and sizes.
- Working clearance must be maintained for all equipment.

If you have any questions or doubts consult a qualified electrician that specializes in this type of work.

Not all electricians are familiar with the unique requirements of pool installations. We suggest having your installation be installed by a qualified electrician familiar with pool installations.

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[Questions and Answers about Pools](#)

Questions and Answers about Pools

- 1) Are electrical permits required for all above ground pools?
 - For the most part YES, only a very few above ground installations will not require some type of electrical permit. (ie. kiddie wading pool)
- 2) Are electrical permits required for all in-ground or practically in-ground pools?
 - YES, all permanently installed pools require permits and inspections for safe operation. (see definition of permanently installed pools)
- 3) What installations does article 680 apply to?
 - The provisions of this article apply to the construction and installation of electrical wiring for and equipment in or adjacent to all swimming, wading, therapeutic, and decorative pools; fountains; hot tubs; spas; and hydromassage bathtubs, whether permanently installed or storable, and to metallic auxiliary equipment, such as pumps, filters, and similar equipment. The term body of water used throughout Part I applies to all bodies of water covered in this scope unless otherwise amended.
- 4) What is a pool?
 - Manufactured or field-constructed equipment designed to contain water on a permanent or semi-permanent basis and used for swimming, wading, or other purposes.
- 5) What's the difference between a storable pool and a permanently installed pool?
 - Storable Swimming or Wading Pool: Those that are constructed on or above the ground and are capable of holding water to a maximum depth of 42 inches, or a pool with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension.
 - Permanently Installed Swimming, Wading, and Therapeutic Pools. Those that are constructed in the ground or partially in the ground, and all others capable of holding water in a depth greater than 42 inches, and all pools installed inside of a building, regardless of water depth, whether or not served by electrical circuits of any nature.
- 6) What other articles of the code apply to swimming pools and hydromassage tubs?

- Except as modified by this article, wiring and equipment in or adjacent to pools and fountains shall comply with other applicable provisions of this Code, including those provisions identified in Table 680.3.

7) What types of lighting fixtures are allowed in or on swimming pools, spas, hot tubs, or other types of items designed for swimming, wading, other purposes?

- Wet-Niche Luminaire (Lighting Fixture). A luminaire (lighting fixture) intended for installation in a forming shell mounted in a pool or fountain structure where the luminaire (fixture) will be completely surrounded by water.
- Dry-Niche Luminaire (Lighting Fixture). A luminaire (lighting fixture) intended for installation in the wall of a pool or fountain in a niche that is sealed against the entry of pool water.
- No-Niche Luminaire (Lighting Fixture). A luminaire (lighting fixture) intended for installation above or below the water without a niche.
- Through-Wall Lighting Assembly. A lighting assembly intended for installation above grade, on or through the wall of a pool, consisting of two interconnected groups of components separated by the pool wall.
- Cord-and-Plug-Connected Lighting Assembly. A lighting assembly consisting of a luminaire (lighting fixture) intended for installation in the wall of a spa, hot tub, or storable pool, and a cord-and-plug-connected transformer.

8) What is a forming shell?

- Forming Shell. A structure designed to support a wet-niche luminaire (lighting fixture) assembly and intended for mounting in a pool or fountain structure.

9) What is a pool cover?

- Pool Cover, Electrically Operated. Motor-driven equipment designed to cover and uncover the water surface of a pool by means of a flexible sheet or rigid frame.

10) What is the difference between fixed, portable, and stationary equipment?

- Fixed Equipment: Equipment that is fastened or otherwise secured at a specific location.
- Portable Equipment: Equipment that is actually moved or can easily be moved from one place to another in normal use.
- Stationary Equipment: Equipment that is not easily moved from one place to another in normal use;

Definitions: 2008 NEC 680.2
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CONTACT:

- For general **permit information**, please call 704-336-3830
- For general **electrical code questions**, please call CTAC 704-432-4668
- For Code **Interpretations**, please call [Joe Weathers](#), Electrical Code Administrator, 704-336-5379